UNIT II Quiz
Review Sheet Solutions

(1) A → use $b_1 = r\frac{s_y}{s_x}$ + $\hat{y} = b_0 + b_1 x$

(2) C

(3) A

(4) B

(5) E

(6) D

(7) D

(8) C

(9) D

(10) B

(11) D

(12) Below are the letters of the TRUE choices
b, c, e, f, i, j

13. a) $\hat{final} = 11.7 + .88(65)$
$= 69.03$

b) Those observed points fall on the LSRL. The model accurately predicted those values. $y = \hat{y}$.

c) Any points above the line RESID = 0, would have a positive residual, which means the LSRL underpredicted their scores. So, points above RESID = 0 should be circled!

14 a) The association between final exam scores & midterm scores is strongly linear & positive. There do not appear to be any outliers or unusual features. Generally, the higher the midterm exam score, the higher the final exam score.

b) An increase of midterm exam scores of 1 point is associated with an increase of .73 points on the final exam score, on average.

c) A score of zero on the midterm exam is associated with a score of 17.318 on the final exam, on average.

d) 91% of the variability in final exam scores can be explained by variation in midterm exam scores.

e) Yes, it has a high r-value & the residual plot has random scatter & no pattern.

f) It means that the model overestimates the final exam score for a given midterm exam.

g) When switch, final exam is x, midterm is y.

$$b_1 = r\frac{s_y}{s_x}$$

$$= .95\left(\frac{13.736}{10.5354}\right)$$

$$= 1.24 \leftarrow \text{NEW SLOPE}$$

h) need to use original relationships.

$$\hat{z}_y = rz_x$$

$$= .95(.8)$$

$$= .76$$

> Final exam .76 SD from mean.